Box 27 Folder 40

1948

CHRONOLOGY FOR PRESENT SEMI-ARID COAST OF SOUTH TEXAS

W.A. PRICE • NOV. 1948

MAN

SPINDEN SAYS OLDER

PRE-SCULPTURE MAYAN CULTURE

MEXICANS CONQUER EMPIRE

OLD MAYA EMPIRE

RAINFALL AGRICULTURE KOKERNOT TERRACE ON RIO GRANDE, W. TEXAS

S

N. AG. VILLAGES

SPANISH IN MEXICO

MISSIONS M-1 M2

TEX-MEX

ANGLO-TEXANS SO. TEXAS

? ARANSAS ET AL FOCI ? ROCKPORT ?

? REPELO, ABASOLO, CAYO CULTURES IN BROWNSVILLE DELTA.

SEA LEVEL

VIRTUAL STILLSTAND

1 FT. RISE OF GULF & TEMP.

LOCAL WARPING
LATE 20 FT. RISE IN C.C. BAY

WATER TABLE

MEDIUM — FALLING — LOW — RISE — PEAK — LOW — LOW — '40-'45 PEAK

DOMINANT GEOLOGIC PROCESSES

DELTAIC GROWTH - POINT ISABEL SUB-DELTA
BARRIER ISLAND FLUCTUATES IN POSITION

COASTAL LAGOON DEPOSITION { OUTER BAYS IN EQUILIBRIUM

BROWN & BLACK SOILS DEVELOP { RED & YELLOW SOILS RELICT

VALLEY FILLING, SMALL STREAMS SHRINK

END OF RED & YELLOW COASTAL SOIL DEVELOPMENT

LAGOON & VALLEY FILLING

A.D.

0 — 200 — 400 — 600 — 800 — 1000 — 1200 — 1400 — 1600 — 1800 — 1950

CLIMATE (THORNTHWAITE '31 '41)

DRY SUB-HUMID

SEMI - ARID

RAIN FOREST CONTRACTS-MEX.

SUB-HUMID RAINFALL PEAK

DRY

40" (1940) RECORD RAINY YEAR

EOLIAN SAND MANTLE MAINLAND

STABILIZED BY VEGETATION

FALFURRIAS ERG.

HERDS SALINE FLOODS, KILL GRASS

MANTLE REWORKED BY WIND AT LAGOON SHORE

CLAY DUNES

TIDAL FLATS

PROGRADING OF TIDAL FLATS

PRE-POTTERY, 1 TO 2 INCH POINTS

SUMMIT I DUNES ARCHAIC CULTURES

POTTERY, TINY "BIRD POINTS"

EROSION SUMMITS I, II ON OSO CREEK.

BARREN ?

S. II LATE CULTURES

S III

PLAYAS (PANS)

CLAY DUNES ON BARRETA LAKE TERRACE

BARRETA LAKES FILLED - NEW BASINS AND DUNES UN-RECOGNIZED ?

PLAYAS INACTIVE

CLAY DUNES OF DEFLATION BASINS AT LOW WATERTABLE

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MAN	SEA LEVEL	WATER TABLE	DOMINANT GEOLOGIC PROCESSES	B.C.	CLIMATE THORNTHWAITE '31 '41	EOLIAN PLAIN	CLAY DUNES	
ELEPHANTS & FLINT POINTS IN LIMONITE SOIL ZONE CORPUS CHRISTI	STILLSTAND ON MISSISSIPPI RIVER LOCAL WARPING	HIGH	VALLEYS DROWNED & EMBAYED; LAKES IN KARST BASINS, REYNOSA CALICHE LIMESTONE; RED & YELLOW SOILS FORM	0	MOIST SUB-HUMID	LAKES FORM IN CREEK VALLEYS — SHALLOW CREEKS CUT IN MANTLE		
(or very much older)		MEDIUM	DESERT SOILS MODIFIED	1,000	DRY SUB-HUMID	MANTLE STABLE; INTERIOR DRAINAGE	CLAY DUNES LATER ERODED OR BURIED	
	RISING	RISING		2,500	SEMI-ARID	DUNES FEW; MANTLE STABILIZED AT WATERTABLE (EOLIAN BASELEVEL)		
?		LOW	EROSION OF CONTINENTAL SLOPES; FILLING OF MAJOR VALLEYS; NO BARRIER ISLAND	3,000 4,000 6,000	ARID	SAND MANTLE FORMS ACROSS PLAINS WITH ACTIVE DUNE FIELDS	CLAY DUNES LATER ERODED OR BURIED	

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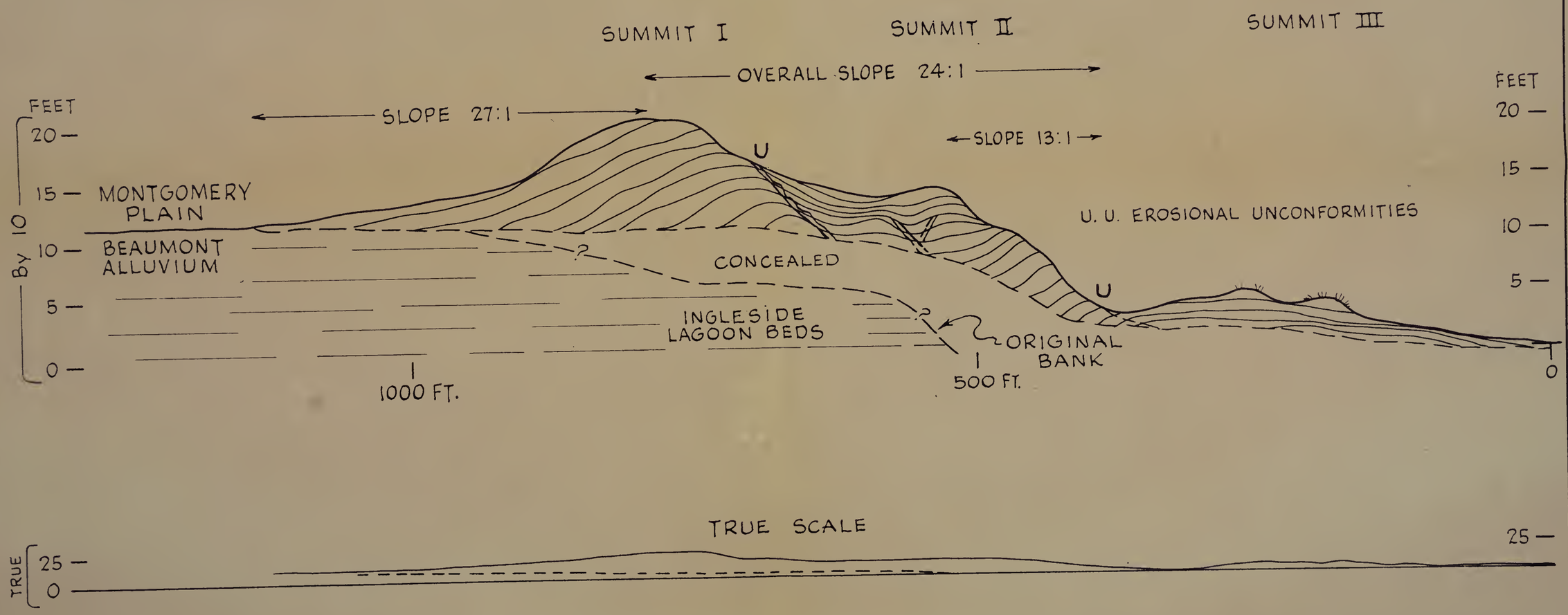
TYPICAL CLAY DUNE
OF OSO CREEK ESTUARY
NUECES COUNTY, TEXAS



CLAY DUNES (*Australia, LUNETTES*) OCCUR (1) ON LEE SHORES OF TIDAL FLATS AND PLAYA BASINS, (2) JUST ABOVE NORMAL WATER LEVEL, (3) IN REGIONS WHERE EVAPORATION EXCEEDS RAINFALL, AND (4) STRONG WINDS AND DROUGHTY SEASONS ARE FREQUENT TOGETHER.

PROPORTIONS OF SAND AND CLAY VARY, THE CLAY NORMALLY HOLDING MOST OF SAND GRAINS AS AGGREGATES ADHERING TO THE PELLET SURFACES AND CONTAINED WITHIN THEM. ADHESION IS RESTORED BY MOISTURE TAKEN UP BY SALTS IN CLAY.

WHEN FREE SAND GRAINS ARE TOO NUMEROUS, DUNE FORM BECOMES THAT OF SAND DUNES.

AS LONG AS CLAY REMAINS PROMINENT IN THE MIXTURE, VEGETATION TENDS TO FIX THE DUNE AT SHORELINE.

CLAY DUNES DO NOT MIGRATE, BUT USUALLY PROGRADE WITH THE TIDAL FLAT.

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(Problem: Chronology of
SEMI-ARID COAST of SOUTH TEXAS -
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